

## **An Integrated Computer Mouse and Pad Pointing device**

**Abstract:** An integrated mouse and pad pointing device is thin and compact that can be built into a laptop computer or other portable computational devices such as a personal data assistant (PDA) or a cell phone with a cursor to replace the cursor control devices such as the touch pad or the pointing stick. This integrated mouse and pad pointing device has a mouse sliding in a slot of a pad plate while the pad plate slides relative to or rotates about a stationary base plate. By sensing the movement of the mouse in the slot relative to the pad plate and the movement of the pad plate relative to the stationary base plate, the movement of the mouse and hence the cursor is determined. This mouse works like a conventional mouse so it is ergonomically easy and accurate to use to control the movement of the cursor. This integrated mouse and pad pointing device with the built-in click buttons in a portable computational device such as a laptop computer allows a convenient operation of controlling the cursor movement and the clicking of the buttons at the same time. A stand-alone version of this device may be plugged in to a desktop computer and will work on any condition.